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| 10/719,852      | 11/21/2003  | Thomas S. Ramotowski | 83303               | 2927             |

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NAVAL UNDERSEA WARFARE CENTER  
DIVISION NEWPORT  
1176 HOWELL STREET, CODE 000C  
BLDG 112T  
NEWPORT, RI 02841

EXAMINER

HU, HENRY S

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1713

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/719,852

Applicant(s)

RAMOTOWSKI ET AL.

Examiner

Henry S. Hu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Amendment of October 13, 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,5-9,12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-9,12 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This Office Action is in response to **Amendment** filed on October 13, 2005. **Claims 1, 5, 7-8 and 23 were amended, Claims 2-3 and 10-11 were cancelled**, while no new claim was added. To be more specific, the limitations from dependent **Claims 2-3 or 10-11** were incorporated into parent Claims 1 and 8; parent **Claims 1, 7 and 13** were amended to use the proper language of “consisting of” for terpolymer as pointed out by the Examiner in interview conducted on September 7, 2005; while dependent Claim 5 was only amended to use correct claim dependency. The title has been changed to “high strain electrostrictive polymer”. **Claims 1-2, 5-9 and 12-13 are now pending** with four independent claims (Claims 1, 7-8 and 13). The examiner **accepts Applicants’ drawing in three sheets with Figures 1-6** filed on November 21, 2003 with this application. An action follows.

### ***Response to Argument***

2. Applicant's argument filed on October 13, 2005 has been fully considered but they are not persuasive. The focal arguments related to the patentability will be addressed as follows: In view of the Applicants’ argument on pages **14-28** of Remarks, all the 102 and 103 rejections are sustained while new rejection on 112-second paragraph is applied.

### ***Claim Rejections - 35 USC § 112***

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3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

On parent Claims 1 and 8, it is very clear that the narrow down in three different ways for “at least one monomer” is “vague and indefinite”. In a close examination, such “at least one monomer” can be any one of following three choices as: (A) monomer selected from the group consisting of 1-chloro-2-fluoroethylene and 1-chloro-1-fluoroethylene, (B) monomer has at least one halogen atom side group, wherein said halogen atom side group is chlorine, and (C) monomer favors gauche-type linkage along a backbone of a polymer chain of said terpolymer. The Examiner understands that the Applicants are incorporating limitations from dependent Claims 2-3 or 10-11 into parent Claims 1 and 8 according to the interview discussion conducted on September 7, 2005. In summary, the Applicants need to rewrite in a clear and definite language according to MPEP rule.

*Claim Rejections - 35 USC § 102*

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4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. *The limitation of parent Claim 1 in present invention relates to an electrostrictive terpolymer consisting of: (A) vinylidene fluoride; (B) trifluoroethylene; and (C) at least one monomer, wherein said at least one monomer is an ethylene-based monomer selected from the group consisting of 1-chloro-2-fluoroethylene and 1-chloro-1-fluoroethylene and said at least*

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*one monomer has and has at least one halogen atom side group, wherein said halogen atom side group is chlorine and wherein said at least one monomer favors gauche-type linkage along a backbone of a polymer chain of said terpolymer.*

*Parent **Claim 7** relates to terpolymer of Claim 1 with a specific combination of VDF, TrFE, and CFE (chlorofluoroethylene). Parent **Claims 8 and 13** each relates to a method of making film of terpolymer from Claims 1 and 7.*

*See other limitations of dependent **Claims 2, 5-6, 9 and 12.***

7. Claims 1-2, 5-9 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Honn et al. (US 3,318,854) for the reasons set forth in **paragraphs 4-5 of office action dated 6-24-2005 as well as the discussion below.**

8. Claims 1-2, 6, 8-9 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al. (US 4,543,293) for the reasons set forth in **paragraphs 6-7 of office action dated 6-24-2005 as well as the discussion below.**

9. Claims 5, 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (US 4,543,293) in view of Honn et al. (US 3,318,854) for the reasons set forth in **paragraph 9 of office action dated 6-24-2005 as well as the discussion below.**

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10. **Applicants:** Applicant has claimed an unexpected way of obtaining an electrostrictive terpolymer consisting of: (A) **vinylidene fluoride**; (B) **trifluoroethylene**; and (C) **“at least one monomer”**. With the interview discussion conducted on September 7, 2005, the C component for “at least one monomer” in parent **Claims 1 and 8** has been amended to carry the extra limitations from dependent Claims 3-4 or 10-11. Parent **Claims 1, 7 and 13** were amended to use the proper language of “consisting of” instead of “comprising” for terpolymer. The Applicants have also presented several arguments on pages 16-27 of Remarks with respect to 102 and 103 rejections.

11. **Examiner:** As discussed in the above-mentioned 112-second paragraph rejection, **such “at least one monomer” in parent Claims 1 and 8 can be any one of following three choices** as: (A) monomer selected from the group consisting of 1-chloro-2-fluoroethylene and 1-chloro-1-fluoroethylene, (B) monomer has **at least one halogen atom** side group, wherein said halogen atom side group is chlorine, and (C) monomer favors gauche-type linkage along a backbone of a polymer chain of said terpolymer. In a very close examination by this Examiner, **component C or B is not necessarily to be component A, while component C is also not necessarily to be component (B).**

The Examiner understands that the Applicants are trying to incorporate limitations from dependent **Claims 2-3 or 10-11** into parent Claims 1 and 8 according to the interview discussion conducted on September 7, 2005. The Applicants need to rewrite in a clear and definite language according to MPEP rule.

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12. With respect to amended **Claims 1-2, 5-9 and 12-13**, all directly relate to original Claims 1-13 and have support in the specification and claims originally filed, they **still carry the same scope of original limitations**. Since the same rational recited in the rejection of original Claims 1-13 can be applied to reject Claims 1-2, 5-9 and 12-13, all the 102 and 103 rejections are sustained.

### *Conclusion*

13. Applicant's amendment **necessitated the new ground(s) of rejection presented in this Office action**. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

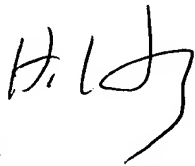


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14. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Dr. Henry S. Hu** whose telephone number is **(571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The fax number for the organization where this application or proceeding is assigned is **(571) 273-8300** for all regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Henry S. Hu

Patent Examiner, art unit 1713, USPTO

November 28, 2005



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